

ABSTRACT OF THE DISCLOSURE

The present invention relates to rapid, quantitative, specific, high through-put methods for screening test substances for their ability to inhibit activity of an ouabain-resistant $\text{Na}^+\text{-K}^+\text{-ATPase}$ involved in a variety of biological processes such as regulation of osmotic balance and cell volume, maintenance of the resting membrane potential, establishment of the ionic composition of cerebrospinal fluid and aqueous humor, electrical activity of muscle and nerve, and receptor-mediated endocytosis, cardiac muscle contractility, neurotransmitter metabolism and vascular muscle cell contraction. These methods can be employed to identify compounds for use in therapeutic applications for disease processes in which dysfunction of the $\text{Na}^+\text{-K}^+\text{-ATPase}$ contributes to a pathological process. The present invention also includes kits which are used in the methods provided herein. The present invention further includes methods of treating or preventing diseases or disorders which are associated with dysfunction of the $\text{Na}^+\text{-K}^+\text{-ATPase}$.